

We claim:

1. A method of responding to device events generated by a peripheral device, the method comprising:

detecting a device event generated by the peripheral device when the peripheral device is in communication with a client system, wherein the event is generated at any of peripheral device detection time, during device operation, at device power-up, power-down or disconnect, or at client system power-up,

transmitting from the client system to a first source of software or data, in response to detection of the device event, a request to obtain software or data from the first source, and

receiving the software or data from the first source, the software or data having been selected to be appropriate for the peripheral device in response to the event generated by the peripheral device,

wherein the steps of detecting, transmitting, and receiving are performed automatically when a device event is detected, without intervention by a user of the peripheral device, and can be executed even when the client system contains no device driver to support the peripheral device.

2. The method of claim 1 wherein the event is generated upon user interaction with the peripheral device.

3. The method of claim 2 wherein the event can include actuating a peripheral device START button.

4. The method of claim 1 wherein receiving the software or data from the first source includes receiving from the first source a package containing any of data, script files or software to enable a response to the detected device event.

5. The method of claim 4 further including:

enabling a sequence of responses to the detected device event, the sequence of responses being defined by the data or software in the package.

6. The method of claim 5 wherein the sequence of responses includes initiating a software program or otherwise activating specified software.

7. A method of responding to events generated by a peripheral device in communication with a client system, comprising:

detecting an event generated by the peripheral device, and

responding to the event generated by the peripheral device, by executing a corresponding function, without intervention by the user of the client system.

8. The method of claim 7 wherein the function is defined on the basis of either the event or the peripheral device.

9. The method of claim 7 wherein the event is generated upon connection of the peripheral device to a client processing system.

10. The method of claim 7 wherein the event is generated upon disconnection of the peripheral device from a client processing system.

11. The method of claim 7 wherein the event is generated during peripheral device operation.

12. The method of claim 7 wherein the event is generated at peripheral device power-up.

13. The method of claim 7 wherein the function includes navigation to a web site.

14. The method of claim 7 wherein the function includes navigating to a predetermined web page when no other response to a given event is defined.

15. The method of claim 7 wherein the function includes initiation of an e-commerce transaction.

16. The method of claim 7 further including:

detecting changes in one or more peripheral devices during operation of the peripheral devices, by detecting events generated by the peripheral devices, and
dynamically responding to the detected changes to manage new devices or events.

17. The method of claim 1 or 7 wherein the client system supports peripheral devices attached to the client system either before or after powering-up the client system, even when no supporting device driver currently exists on the client system at the time the device is attached to the client system.

18. The method of claim 1 or 7 wherein the detecting step includes the step of detecting events generated on a bus in communication with the client system.

19. The method of claim 18 wherein the bus operates in accordance with a predefined bus protocol.

20. The method of claim 19 wherein the bus protocol is USB or IEEE-1394.

21. The method of claim 1 or 7 further including:

detecting events originating on a wireless network in communication with the client system.

22. The method of claim 1 or 7 further including:

responding to events originating on a home network operating in accordance with a home network standard.

23. The method of claim 22 wherein the home network standard is the American National Standards Institute (ANSI) home network standard.

24. The method of claim 7 further including:

upon detection of an event associated with a device or device class represented in a list of event classes, initiating a response to the event,

wherein the response is among a list of possible responses to events specified in the list of event classes, for each of a set of devices or devices classes.

25. The method of claim 24 further including:

associating, with a given device, a list of possible sequences of responses to events in each event class, and

wherein the step of initiating a response includes the step of initiating a sequence of responses.

26. The method of claim 25 wherein the list is extensible.

27. The method of claim 25 wherein the associating includes:

storing a list of devices and device events that can be extended without modification to base client system software.

28. The method of claim 25 further including:

responding to detection of event types and devices not previously encountered or supported by the system.

29. The method of claim 28 wherein the storing includes:

storing, in a first source, at least one extensible set of mappings of event types and corresponding responses, including an extensible list of event types and responses not previously encountered or supported by the client system.

30. The method of claim 28 further including:

detecting a new event type not previously encountered or supported by the client system, and

opening a communications channel with the first source to obtain a package of software or data specifying a response to the new event type.

31. The method of claim 30 wherein the step of responding to peripheral devices is defined by a package resident on the client system, or on the first source.
32. The method of claim 31 wherein the package can be resident in the client system or obtained from the first source after detection of the device event.
33. The method of claim 28 wherein the responding includes:
detecting a device type for the device.
34. The method of claim 33 further including:
responding to newly encountered, unsupported devices, responsive to detected device type.
35. The method of claim 7 wherein the responding includes:
navigating to a default Web page when no software can be obtained from the first source to support the device.
36. The method of claim 7 further including:
permitting device-driver-originated events to initiate interaction with a user of the peripheral device, via a user interface.
37. The method of claim 36 further including:
permitting the user, following initiation of interaction, to control the peripheral device through the user interface.
38. The method of claim 7 further including:
utilizing a standard format to define browser navigation directives.
39. The method of claim 7 further including:
utilizing a standard format to define or initiate device events.
40. The method of claim 7 further including:
utilizing a standard format to communicate device event-specific data.
41. The method of claim 7 further including:
utilizing a standard format to communicate runtime data.
42. The method of claim 7 further including:

permitting third parties to implement, in software, specific responses to device events, wherein the specific responses to device events can include device events not previously encountered by the system.

43. The method of claim 42 wherein enabling third parties to implement specific responses to device events includes:

establishing a common interface definition for use by third parties.

44. The method of claim 43 further including permitting third parties to download extensible user interface software modules, to enable extensibility of code or functions associated with responses to device events.

45. The method of claim 43 wherein specific response implementations are defined to the client system using a standard format.

46. The method of claim 45 wherein the standard format is World Wide Web Consortium (W3C) XML.

47. The method of claim 1 or 7, wherein a device-driver-originated event is printer out-of-ink.

48. The method of claim 1, wherein the client system is in communication with the first source via the world wide web or Internet.

49. The method of claim 1, wherein the first source includes a broadcast carousel.